Assessing ESL Students' Literal, Reorganization and Inferential Reading Comprehension Abilities

Akhtar Ali[*]
Muhammad Javed [**]
Ghulam Shabbir[***]

Abstract

Reading comprehension is one of the basic skills of the English language that enables ESL students to comprehend textual material appropriately. This study aims to assess reading comprehension abilities of primary school students studying at private schools. A reading comprehension test, based on Barrett's and Day and Park's taxonomies of reading comprehension, was developed by focusing on literal, reorganization and inferential reading comprehension skills. ESL students of grade 5 were targeted in the study. A sample comprising of 375 students was selected from 25 primary schools from District Vehari, Pakistan. Fifteen students were randomly selected from each school. Mean scores, standard deviation and percentage were calculated in order to analyze the data. T-value was calculated to make comparison between the performance of male and female students in reading comprehension skills. The results indicate that the respondents showed better performance in literal and reorganization comprehension as compared to inferential comprehension. The calculated t-value (0.04162) reflects that there was a significant difference between the performance of male and female students. Some implications were made to enhance ESL students' reading comprehension abilities.

Keywords: ESL students, comprehension, literal, reorganization, inferential, assessment

Introduction

Linguists divide language into four skills; namely, speaking, writing, listening and reading. Two skills such as speaking and writing are known as productive skills. Contrarily, reading and listening skills are considered as receptive skills. Each skill helps ESL students in promoting their language competencies; however, reading skill, not only assists them in developing language skills, but also provides foundations for them to enhance their language abilities. The previous studies (e.g., Sénéchal & LeFevre, 2002; Welcome, Chiarello, Thompson, & Sowell, 2011) concluded in their studies that reading

[*] Professor of Education, Department of Education, The Islamia University of Bahawalpur, Pakistan, Email: akhtariub@hotmail.co.uk
[**] Assistant Professor, Department of Education, The Islamia University of Bahawalpur, Pakistan, (Corresponding author) email: muhammad.javed@iub.edu.pk
[***] PhD Scholar, Department of Education, The Islamia University of Bahawalpur, Pakistan

was more important as compared to other language skills because it provides foundations for ESL students to improve their language proficiencies. Reading is known as an interaction between the text and reader in order to dig out meanings from the textual material. Longman Dictionary of Language Teaching and Applied Linguistics (2012: 483), states that "reading is a process by which the meaning of the text is understood". ESL students apply a variety of reading strategies in order to identify main idea and locate supporting details from the text. They also identify cause and effect relationship and get the meanings of unknown words with the help of contextual clues. In addition, they infer the text for drawing appropriate conclusions.

With regard to the process of reading comprehension, the reader needs to go back time and again in order to extract accurate meanings of the text (Diaz & Laguado, 2013; Mellard, Fall, & Woods, 2010). In this connection, the reader's level of success or failure is judged by the competence of decoding the text (McKeown, Beck, & Blake, 2009).

The English language is taught as a second language in Pakistani institutions and it enjoys the status of Lingua Franca in the country. It is playing very important role in promoting education, developing economic status and upbringing social life in Pakistan. English is known as an official language in Pakistan as well (Mahboob, 2009). The importance of the English language is increasing gradually in Pakistan since it is deemed as a token to be successful in life (Mahboob, 2003; Mansoor, 2005; Mustafa, 2011). With regard to the Pakistani ESL students' abilities in reading comprehension, they are lagging behind in coping with inferential and reorganization comprehension (Javed, Eng, & Mohamed, 2013).

The skill of reading comprehension is attached to recognizing letters, words, phraseology, vocabulary, connectors and phonology of the English language (Hale et al., 2011). Fundamentally, it is a vibrant interaction between the text and the reader. In other words, it is a dynamic process through which the reader extracts meanings from the text with the help of his previous knowledge and understanding (Cornoldi & Oakhill, 2013; Kendeou, Van den Broek, White, & Lynch, 2009). With regard to the conception of reading comprehension, the taxonomy of reading comprehension designed by Barrett's (1968) assists ESL students to understand any type of textual material. According to Barrett (968), there are five types of skill categories; namely, i) literal, ii) reorganization, iii) inferential, iv) evaluation, and v) appreciation. These skills are further categorized into different sub-skills (Alderson & Urquhart, 1984). Similarly, Day and Park (2005) presented another taxonomy of reading comprehension, which state five similar skill categories; namely i) literal, ii) reorganization, iii) inference, iv) prediction, and v) evaluation/personal response.

The taxonomies stated above assist ESL learners to a great extent in enhancing their capabilities in reading comprehension. They are very significant for students to comprehend each genre of text, however, as regards the objectives of the current study

are concerned, three skill categories; namely, literal, reorganization and inference/ inferential were focused. Cleland (1965) also presented a model with six stages, i.e., i) perception, ii) appreciation, iii) abstraction, iv) appraisal, v) ideation and vi) application. These stages are also significantly important for ESL students to enhance their intellect for comprehending the text. Two stages stated in Cleland's (1965) model are akin to the first two skill categories of the reading comprehension taxonomies presented by Barrett (1968) and Day and Park (2005). The current study focused on identifying supporting details and locating main ideas which are the sub-skills of literal comprehension. The study also addressed to extracting supporting details, locating simple cause and effect relationship, and getting the meanings of unknown words with the help of contextual clues, which are the sub-skills of reorganization comprehension. In addition, drawing conclusion and making inferences were also considered to be identified that are the sub-skills of inferential comprehension.

Regarding the concept of literal comprehension, the answers of the questions pertaining to supporting details and main ideas are explicitly narrated in the text. On the other hand, the answers of reorganizational questions are also explicitly stated in the text, however, the reader needs to reorganize and analyze various pieces of information taken from different parts of the text. As regards the approaches to be employed for answering inferential comprehension questions, students need to make predictions, suppositions and assumptions based on their personal experiences, background knowledge, and common perception in view of the information explicitly stated in the text (Hessamy & Sadeghi, 2013; Javed, Eng, & Mohamed, 2013). Previous research findings report that students are generally able to answer the questions related to literal comprehension with slight efforts. On the other hand, they face immense trouble in answering inferential and reorganizational comprehension questions. According to Izumi (2012) and Jones and Idol (1990), ESL students need critical thinking skills and higher order capabilities for drawing conclusion and making inferences while answering inferential comprehension questions.

The studies carried out by Bibi (2009), Shafi and Loan (2010), Stutz, Schaffner, and Schiefele (2016) conclude that students' lack of capabilities in reading comprehension. Hardly a few studies have been conducted in Pakistani contexts for measuring students' erudition in inferential comprehension. Therefore, in view of the situation, the researchers aim to measure ESL students' proficiencies in literal, reorganization and inferential reading comprehension in line with the taxonomies of reading comprehension stated above.

Objectives of the Study

Following research objectives were formulated in the study.

1. To measure ESL students' performance in literal, reorganization and inferential comprehension skills.
2. To compare the performance of male and female students in the selected skills.

Hypotheses

Following hypotheses were framed in line with the second objective of the study to compare male and female students' performance in literal, reorganization and inferential comprehension.

1. H_o. There is no significant difference between male and female students' performance in reading comprehension skills.
2. H_1. There is a significant difference between male and female students' performance in reading comprehension skills.

Methodology

Sample

ESL students of class five were targeted in the current study. As regards the selection of sample, three hundred and seventy-five students were randomly chosen from 25 private schools from District Vehari, Pakistan. In this respect, 15 students were taken from each school. Out of the selected respondents, 180 (48%) were females while 195 (52%) males participated in the study. The respondents' average age ranged from 9 to 11 years with the mean of 10.4 years.

Research Tool

A self-designed achievement test was used to collect the quantitative data. The test comprised of 15 passages and 75 MCQs related to the selected skill categories; namely, literal, reorganization, and inferential comprehension in connection with the reading comprehension taxonomies of Barrett (1968) and Day and Park (2005) and the objectives of the English language of Grade 5 set by the Ministry of Education Pakistan (2006). English Textbook of grade 5 of the Punjab Textbook Board (PTB) Lahore, Pakistan was focused for the selection of 15 passages followed by five reading comprehension questions under each text in the achievement test. Four options/distracters were given under each question. The New Dale-Chall Readability Formula was used to determine the difficulty level of each passage. As stated earlier, two skill categories such as finding supporting details and locating main ideas under literal comprehension were focused. Three sub-skills; namely, digging out supporting details, identifying simple cause and effect relationships, and getting the meanings of unknown words with the help of contextual evidences were considered under reorganization comprehension while developing the achievement test. Furthermore, drawing conclusions and making inferences were addressed under inferential comprehension in the achievement test.

Twenty-five MCQs were constructed under each skill category. Sixteen items were included to measure students' proficiency in locating the main idea while 9 items were added for identifying supporting details. As regards measuring students' capabilities in reorganization comprehension, 8 items were designed for identifying simple cause and effect relationships, 7 items were developed for getting the meanings of words by using contextual evidences while 10 items were constructed for digging out supporting details. With respect to inferential comprehension, 15 items were included for measuring students' performance in making conclusions while 10 items were specified in order to gauge students' proficiency in drawing conclusions.

A pilot study was carried out in order to test the validity and reliability of the instrument. In this respect, the English language experts tested the validity of the tool. The experts suggested some changes in the instrument; therefore, the recommended changes were incorporated in the light of their opinions regarding the difficulty level of the passages, length of the texts, appropriateness of the MCQs and possible options/distracters for each question. One hundred and fifteen students were chosen for the pilot study. The selected sample for the pilot study was 30 % of the total sample of the study that is in line with the recommended sample size by Hertzog (2008). The reliability of the tool was established by using The Kuder-Richardson Formula (KR20). The reliability for literal comprehension, reorganization comprehension and inferential comprehension was 0.892, 0.912 and 0.933 respectively. These values indicate high reliability of the instrument (Airasian, Gay, & Mills, 2000; Bonito, Ruppel, & Keyton, 2012).

Data Collection and Analysis

As stated earlier, a self-designed achievement test was used to gather quantitative data from the students of grade 5 from District Vehari, Pakistan. The participants of the study were given proper instructions and allocated 90 minutes to complete the comprehension test. Each respective teacher cooperated with the researchers in administering the test. Hence, 100 % response rate was reported. Statistical Package for Social Sciences (SPSS. 22) was used for the analysis of the data. The marking of the students' transcripts was made on the principle of one-item one-mark, therefore score 1 was given to the correct response while zero score was awarded to an incorrect answer. Descriptive and inferential statistics were applied for the analysis of the data. Therefore, percentage, mean scores, and standard deviation were calculated for each reading skill category. T-value was also calculated to measure the difference between males and females at $p \leq 0.05$.

Results

Each reading skill was analyzed individually. Moreover, comparison between male and female students was also made in order to measure their proficiency in reading comprehension. The results are presented in tabular forms as follows.

Table 1 shows ESL students' mean scores in three reading comprehension skills such as literal reading comprehension, reorganization reading comprehension, and inferential reading comprehension. It also indicates that their score in literal, reorganization and inferential comprehension was 22.7 (90.8%), 9.8 (39.2%) and 10.1 (40.4%) respectively. The data in the table reveal that the participants show better performance in literal reading comprehension as compared to reorganization reading comprehension and inferential reading comprehension. It also shows that the respondents face difficulty to reorganize and analyze different pieces of information taken from the texts.

Table 1

The ESL students' overall performance in reading comprehension skill categories (N=375)

Reading Skills	Scores for each reading skill	Mean scores	%
Literal Reading Comprehension	25	22.7	90.8
Reorganization Reading Comprehension	25	9.8	39.2
Inferential Reading Comprehension	25	10.1	40.4

According to the data presented in Table 2, the students' performance was relatively better in locating main idea and identifying supporting detail instead of discovering cause and effect relationship, digging out supporting details and getting the meanings of unknown words. It reveals that students excelled in understanding literal and inferential texts as compared to answer reorganization comprehension questions. It can be concluded that the students could not answer the questions for which the information was implicitly stated in the text.

Table 2

The ESL students' overall performance in sub-skills of reading comprehension (N=375)

Reading Skills		Sub-skills	Score for each reading skill	Mean scores	%	SD
Literal Reading Comprehension	i	identify supporting detail	16	14.5	90.62	.3078
	ii	locate main idea	9	8.2	91.11	.3663
Reorganization Reading Comprehension	i	identify simple cause and effect	8	2.6	32.50	.4701
	ii	acquire the meaning of words by using contextual clues	7	2.0	28.57	.4893
	iii	extract supporting details	10	2.3	23.00	.3663
Inferential Reading Comprehension	i	make inference	10	2.3	23.00	.4103
	ii	draw conclusion	15	8.1	54.00	.5026

The data presented in Table 3 represent male students' gained scores in literal comprehension, reorganization comprehension, and inferential comprehension. It shows that ESL students obtained better scores in the inferential reading comprehension and literal comprehension as compared to reorganization reading comprehension.

Table 3

The ESL male students' overall performance in reading comprehension skills (N=195)

Reading skills	Score for each reading skill	Mean scores	%
Literal Reading Comprehension	25	21.4	85.6
Reorganization Reading comprehension	25	5.6	22.4
Inferential Reading comprehension	25	10.2	40.8

Table 4 indicates female students' expertise in three types of skill categories such as literal reading comprehension, reorganization reading comprehension, and inferential reading comprehension. It represents that the participants showed better performance in identifying main idea and supporting details; information explicitly stated in the text, e.g., literal comprehension. They face difficulty in inferring information not clearly stated in the texts.

Table 4

The ESL female students' overall performance in reading comprehension skills (N=180)

Reading skills	Scores per skill category	Mean scores	%
Literal Reading Comprehension	25	24	96
Reorganization Reading comprehension	25	8.2	32.8
Inferential Reading comprehension	25	10.6	42.4

The data presented in Table 5 gives a succinct projection of both genders' performance in literal comprehension, reorganization comprehension, and inferential comprehension. The results indicate that both genders acquired relatively better scores in locating supporting detail and identifying main idea that are the sub-skills of literal comprehension. Similarly, their performance was also well in drawing the conclusion, which is one of the sub-skills under inferential comprehension. On the other hand, the respondents were unable to identify cause and effect relationship, dig out the meaning of unknown words, and locate supporting details and make inferences satisfactorily. The t-value (0.0416) was found significant at $p<0.05$ level of significance. Therefore, keeping in view the calculated t-value, it can be concluded that the null hypothesis ($1\text{-}H_o$) was rejected. Based on the finding, it is evident that there was a significant difference between the performance of male and female students.

Table 5

Comparison of males and females in reading comprehension skills (N=375)

Reading Skills		Sub-skills	Score Obtained	Male students (n=195)			Female students (n=180)			*t-value*
				Mean score	%	SD	Mean score	%	SD	
Literal Reading Comprehension	i	identify supporting detail	16	13.6	85.00	.42	15.4	96.25	.000	
	ii	locate main Idea	9	7.8	86.66	.42	8.6	95.55	.316	
Reorganization Reading Comprehension	i	identify simple cause and effect	8	2.2	27.50	.48	3.0	37.5	.483	
	ii	acquire the meanings of words by using contextual clues	7	2.0	28.57	.48	2.0	28.57	.516	.04162*
	ii i	extract supporting details	10	1.4	14.00	.00	3.2	32	.483	
Inferential Reading Comprehension	i	make inference	10	2.8	28.00	.48	1.8	18	.3162	
	ii	draw conclusion	15	7.4	49.33	.53	8.8	58.66	.4830	

Discussion and Conclusion

The literature indicates that reading skills provide foundations for ESL students to enhance their proficiencies to greatly understand any type of textual material (Cornoldi & Oakhill, 2013). Fundamentally, ESL students' expertise and skills to assist them to

comprehend text in order to extract important information implicitly or clearly stated in the text. According to the taxonomies of reading comprehension by Barrett's (1968) and Day and Park (2005), ESL students should have competencies to deal with a literal understanding of the text as well as abilities to reorganize and infer information based on information either explicitly or implicitly stated in the text. In this respect, Yeh, McTigue, and Joshi (2012) claim that such abilities boost up ESL students' critical thinking skills. As regards the results of the current study, the ESL students showed relatively better expertise in identifying main ideas and location supporting details, which are the sub-skills of literal reading comprehension. These results are consistent with the findings from Abdelhalim (2017), Alptekin (2006), Roe and Smith (2011), Ulu (2016) who gauged ESL students' capabilities in literal reading comprehension, reorganization reading comprehension, and inferential reading comprehension. Moreover, the current study's results indicate that the participants' performance was relatively poor in answering reorganization comprehension questions as compared to answer literal and inferential comprehension questions.

Additionally, a significant difference was found between male and female students' performance in all types of reading skill categories; namely, literal comprehension, reorganization comprehension, and inferential comprehension. Moreover, the calculated t-value is an indicator of the difference between their competencies in answering literal, reorganization and inferential comprehension questions.

Recommendations

Reading skills stated in the previously mentioned taxonomies of reading comprehension are significantly important for ESL students to enhance their English language competencies. In connection with the findings of the current study, the respondents' proficiency in answering inferential comprehension is comparatively deplorable. Therefore, they are suggested to enhance their inferential comprehension skills. Additionally, they should utilize both the taxonomies in order to improve their language skills since these skills provide strong foundations to command over the English language. Besides, students also lack the abilities for reorganizing information after taking from different parts of the text. Hence, they should pay focus on learning how to organize and analyze information. Similar studies can be carried out to investigate ESL students' proficiencies in other skills such as appreciation, evaluation, prediction and personal response stated in the aforementioned reading comprehension taxonomies.

References

Abdelhalim, S. M. (2017). Developing EFL students' reading comprehension and reading engagement: effects of a proposed instructional strategy. *Theory and Practice in Language Studies*, *7*(1), 37-48.

Airasian, P., Gay, L., & Mills, G. 2000. *Educational research: Competencies for analysis and application.* New Jersey, Upper Saddle: Prentice Hall.

Albarillo, L. B. (2012). Predictors of teachers' reading skills in a rural school district in Northeastern Mindanao Philippines. *IAMURE International Journal of Multidisciplinary Research, 2*(1), 28-47.

Alderson, J. C., & Urquhart, A. H. (1984). *Reading in a Foreign Language*: Longman Pub Group.

Alptekin, C. (2006). Cultural familiarity in inferential and literal comprehension in L2 reading. *System*, *34*(4), 494-508.

Barrett, T. C. (1968). What is reading? Some current concepts. In H. M. Robinson (Ed.) *Innovation and Change in Reading Instruction: The Sixteenth Handbook of the National Society for the Study of Education*. Chicago: The University of Chicago Press.

Bibi, H. (2009). *Improving the Teaching of Reading Comprehension in English as a Foreign Language Classroom in Karachi* (Unpublished master's dissertation). Aga Khan University, Karachi, Pakistan. Retrieved from http:// ecommons. aku. edu/theses_dissertations/294/

Bonito, J. A., Ruppel, E. K., & Keyton, J. (2012). Reliability estimates for multilevel designs in group research. *Small Group Research*, *43*(4), 443-467.

Cleland, D. L. (1965). A construct of comprehension. *Reading and Inquiry*, 59-64.

Cornoldi, C., & Oakhill, J. V. (Eds.). (2013). *Reading Comprehension Difficulties: Processes and Intervention*. Routledge.

Day, R. R., & Park, J. (2005). Developing reading comprehension questions. *Reading in a Foreign Language*, *17*(1), 60-73.

Diaz, S., & Laguado, J. C. (2013). Improving reading skills through skimming and scanning techniques at a public school: action research. *Opening Writing Doors Journal*, *10*(1), 133-150.

Government of Pakistan (2006). *National Curriculum for English Language; Grades 1-XII 2006.* Ministry of Education. Islamabad, Pakistan. Retrieved from http://www.ibe.unesco.org/curricula/pakistan/pk_al_eng_2006_eng.pdf

Hale, A. D., Henning, J. B., Hawkins, R. O., Sheeley, W., Shoemaker, L., Reynolds, J. R. & Moch, C. (2011). Reading assessment methods for middle-school students: An investigation of reading comprehension rate and Maze accurate response rate. *Psychology in the Schools*, *48*(1), 28-36.

Hertzog, M. A. (2008). Considerations in determining sample size for pilot studies. *Research in nursing & health, 31 (2),* 180-191.

Hessamy, G., & Sadeghi, S. (2013). The relative difficulty and significance of reading skills. *International Journal of English Language Education*, *1*(3), pp-208.

Izumi, H. (2012). Exploring the relationship between teacher questioning and students' interest in the content: teachers' general perceptions. *Sophia*, 42-61.

Javed, M., Eng, L. S., & Mohamed, A. R. (2013). Comparison of male and female ESL students scores in literal reading comprehension. *Cypriot Journal of Educational Sciences*, *8*(3), 302-308.

Jones, B. F., & Idol, L. (eds.) (1990). *Dimensions of Thinking and Cognitive Instruction.* Hillsdale, NJ: Lawrence Erlbaum.

Kendeou, P., Van den Broek, P., White, M. J., & Lynch, J. S. (2009). Predicting reading comprehension in early elementary school: The independent contributions of oral language and decoding skills. *Journal of Educational Psychology*, *101*(4), 765.

Longman (2012). *Longman Dictionary of Language Teaching and Applied Linguistics.* Retrieved from http://www.amazon.com/Longman-Dictionary-Language-Teaching-Linguistics/dp/1408204606

Mahboob, A. (2003). *The future of English in Pakistan. Strengthening Participatory Organization*: Islamabad. Pakistan.

Mansoor, S. (2005). *Language Planning in Higher Education: a case study of Pakistan*. Oxford University Press: Karachi.

McKeown, M. G., Beck, I. L., & Blake, R. G. (2009). Rethinking reading comprehension instruction: A comparison of instruction for strategies and content approaches. *Reading Research Quarterly*, *44*(3), 218-253.

Mellard, D. F., Fall, E., & Woods, K. L. (2010). A path analysis of reading comprehension for adults with low literacy. *Journal of learning disabilities*, *43*(2), 154-165.

Mustafa, Z. (2011). *Tyranny of Language in Education: the problem and its solution.* Usha Publishing International: Karachi.

Pearson, P. D. (2009). The roots of reading comprehension instruction. In K, Ganske and D, Fisher (Eds.) *Comprehension Across the Curriculum: Perspectives and Practices K-12* (pp. 279-321). New York: The Guilford Press

Roe, B. D., & Smith, S. H. (2011). *Teaching Reading in Today's Elementary Schools*. Belmont: Wadswordth Cengage Learning.

Sénéchal, M., &LeFevre, J. A. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child development*, *73*(2), 445-460.

Shafi, S. M., & Loan, F. A. (2010). Reading habits among college students of Kashmir across genders. *Trends in Information Management*, *6*(2), 92-103.

Stutz, F., Schaffner, E., & Schiefele, U. (2016). Relations among reading motivation, reading amount, and reading comprehension in the early elementary grades. *Learning and Individual Differences*, *45*, 101-113.

Ulu, M. (2016). A structural equation model to explain the effect of fluent reading, literal comprehension and inferential comprehension levels of elementary school 4th grade students on success in problem Solving. *Egitim ve Bilim*, *41*(186), 13-25.

Welcome, S. E., Chiarello, C., Thompson, P. M., & Sowell, E. R. (2011). Reading skill is related to individual differences in brain structure in college students. *Human brain mapping*, *32*(8), 1194-1205.

Widodo, H. P. (2009). Key issues in teaching EFL/ESL intensive reading: A videotaped self-observation report. *The Journal of Effective Teaching*, *9*(3), 38-58.

Yeh, Y. F., McTigue, E. M., & Joshi, R. M. (2012). Moving from explicit to implicit: A case study of improving inferential comprehension. *Literacy Research and Instruction*, *51*(2), 125-142.

Zoghi, M. (2013). Let's Cross the Rubicon: Strengthening Reading Comprehension Instruction. *Procedia-Social and Behavioral Sciences*, *70*, 537-543.

.